

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in this application.

Listing of Claims:

Claim 1 (currently amended): Aqueous radiation curable binders comprising non-ionically stabilized epoxy resins ABC which are mixtures of adducts of polyethylene glycol-modified epoxy resins A and epoxy resins B that are free from polyethylene glycol derived groups, with olefinically unsaturated acids C, characterized in that they comprise building blocks of epoxy resins A modified with polyethylene glycol made by reaction, under ring opening, of polyethylene glycol and a epoxy resin having an average of two epoxy groups per molecule, and then reacting the resin obtained with a polyhydric phenol and a glycidyl ester or a glycidyl ether of a polyhydric phenol in an advancement reaction which glycidyl ethers have a specific content of epoxide groups of between 1.1 mol/kg and 6.7 mol/kg, of epoxy resins B that are free from polyethylene glycol, and of olefinically unsaturated acids C, and that ~~at least 50 % of~~ all reaction products derived from the epoxy resins A and B comprise at least one ester group formed by reaction of a terminal epoxy group with an olefinically unsaturated acid C.

Claim 2 (previously presented): Aqueous radiation curable binders according to claim 1, characterized in that they contain unsaturated urethanes DEF which are reaction products prepared by reacting polyfunctional isocyanates D with a mixture

of polyfunctional aliphatic alcohols E, and of hydroxyl group - containing olefinically unsaturated compounds F.

Claim 3 (original): Aqueous radiation curable binders according to claim 2, characterized in that the ratio of the mass of the epoxy resins ABC to the mass of the urethanes DEF is (90 to 30) : (10 to 70).

Claim 4 (original): Aqueous radiation curable binders according to claim 1, characterized in that they additionally comprise reaction products G'GHI of epoxy resins G' with at least two epoxide groups per molecule, and reaction products GHI of epoxy resins G, fatty acids H and amines I.

Claim 5 (original): Aqueous radiation curable binders according to claim 4, characterized in that the ratio of the mass of the epoxy resins ABC to the mass of reaction products G'GHI is (90 to 30) : (10 to 70).

Claim 6 (original): Aqueous radiation curable binders according to claim 2, characterized in that they additionally comprise reaction products G'GHI of epoxy resins G' with at least two epoxide groups per molecule, and reaction products GHI of epoxy resins G, fatty acids H and amines I.

Claim 7 (original): Aqueous radiation curable binders according to claim 6, characterized in that the ratio of the mass of the epoxy resins ABC to the mass of the urethanes DEF is (90 to 30) : (10 to 70).

Claim 8 (currently amended): A process for the preparation of aqueous radiation curable binders of claim 1, characterized in that in the first step, an hydrophilic epoxy resin A modified by polyethylene glycol is prepared by reacting in the first step, an epoxy resin having an average of two epoxy groups per molecule, and a polyethylene glycol, under ring opening, which resin is then reacted with one of the polyhydric phenols selected from the group consisting of resorcinol, hydroquinone, 2,2-bis-(4'-hydroxyphenyl)-propane (Bisphenol A), mixtures of isomers of dihydroxydiphenyl methane (bisphenol F), 4,4'-dihydroxydiphenyl cyclohexane, 4,4'-dihydroxy-3,3'-dimethyldiphenyl propane, 4,4'-dihydroxydiphenyl, 4,4'-dihydroxy-benzophenone, bis-(4'-hydroxyphenyl)-1,1-ethane, bis-(4'-hydroxyphenyl)-1,1-isobutane, bis-(4'-hydroxy-tert.-butylphenyl)-2,2-propane, bis-(2-hydroxynaphthyl)-methane, 1,5-dihydroxynaphthalin dihydroxynaphthalene, tris-(4-hydroxyphenyl)-methane, bis-(4-hydroxyphenyl) ether, bis-(4-hydroxyphenyl) sulfone and the chlorination and bromination products of the compounds mentioned here and a glycidyl ester or a glycidyl ether of a polyhydric phenol which glycidyl ethers have a specific content of epoxide groups of between 1.1 mol/kg and 6.7 mol/kg in the way of an advancement reaction, this epoxy resin is then mixed with an epoxy resin B which is not modified with polyethylene glycol, and in the second step this mixture is reacted with an olefinically unsaturated acid C, wherein in this step, non-ionically

stabilized epoxy resins ABC is which are mixtures of adducts of polyethylene glycol-modified epoxy resins A and epoxy resins B that are free from polyoxyethylene groups, with olefinically unsaturated acids C are formed by ring opening of the epoxide rings.

Claims 9 – 11 (cancelled)

Claim 12 (currently amended): A method of use of aqueous radiation curable binders according to ~~one of claims 1, 2, 4, or 6~~ in the production of corrosion protection coatings, comprising the steps of mixing of the binders with a photoinitiator, and optionally further additives, coating of the substrate with the paint by rolling, dipping, spraying, brushing, or application with a doctor blade, drying of the coating at a temperature of from 20 °C to 90 °C, and curing by irradiation with high energy radiation.

Claim 13 (original): The method of claim 12 for the production of corrosion protection coatings on metals.

Claim 14 (new): A method of use of aqueous radiation curable binders according to claim 2 in the production of corrosion protection coatings, comprising the steps of mixing of the binders with a photoinitiator, and optionally further additives, coating of the substrate with the paint by rolling, dipping, spraying, brushing, or application with

a doctor blade, drying of the coating at a temperature of from 20 °C to 90 °C, and curing by irradiation with high energy radiation.

Claim 15 (new): The method of claim 14 for the production of corrosion protection coatings on metals.

Claim 16 (new): A method of use of aqueous radiation curable binders according to claim 4 in the production of corrosion protection coatings, comprising the steps of mixing of the binders with a photoinitiator, and optionally further additives, coating of the substrate with the paint by rolling, dipping, spraying, brushing, or application with a doctor blade, drying of the coating at a temperature of from 20 °C to 90 °C, and curing by irradiation with high energy radiation.

Claim 17 (new): The method of claim 16 for the production of corrosion protection coatings on metals.

Claim 18 (new): A method of use of aqueous radiation curable binders according to claim 6 in the production of corrosion protection coatings, comprising the steps of mixing of the binders with a photoinitiator, and optionally further additives, coating of the substrate with the paint by rolling, dipping, spraying, brushing, or application with a doctor blade, drying of the coating at a temperature of from 20 °C to 90 °C, and curing by irradiation with high energy radiation.

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Claim 19 (new): The method of claim 18 for the production of corrosion protection coatings on metals.